Priming Devices
Priming Devices

- Essential part of centrifugal pumps
  - Centrifugal pumps cannot pump air
  - Provides water to the impeller

- Result of air pressure differential
  - Reduces atmospheric pressure within pump cavity

- Uses
  - Testing
  - Drafting
NFPA 1911

- Must be able to develop 22" Hg
- Must be able to pull a draft within 30 seconds
  - 45 seconds for 1500 gpm or larger fire pumps
Positive Displacement Pumps

- Rotary gear and rotary vane
- Power sources
  - Electric motor
  - Mechanically
- Components
  - Vanes or gears
  - Oil tank
  - Tube
Rotary Vane Pump

Water Inlet from Main Pump

Primer Oil Inlet

Coupling from Primer Motor to Pump

Primer Motor
Vacuum Primers

- Connected between pump and intake manifold
- Check valves prevent
  - Water from being drawn into engine
  - Gases being forced into the pump
Engine exhaust priming system

Primer Handle in OPEN Position
Engine exhaust priming system

Handle Down – Closed

Exhaust from Engine
Venturi Tube
Pumping Valve

Intake of Pump
Air in Pump
Pump Impeller

Exhaust Gases

Water Supply

Fire Pump

Primer Handle in CLOSED Position